

A #5 type ✓
C #6

Mrs. Hayden

Name Key

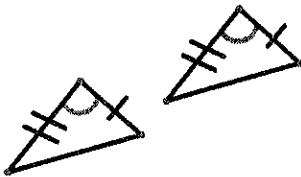
Date _____

for 204
part C,
#1 fill in also

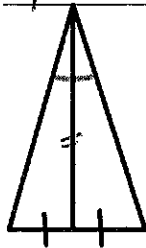
Congruent Triangles

Determine if the given triangles are congruent. Use the given marks and mark vertical angles and reflexive. If they are congruent, state the reason why. (SAS, SSS, ASA, AAS, and HL.) If they are not congruent, write not.

1. SAS



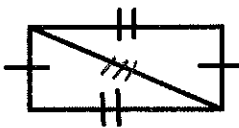
2. Not



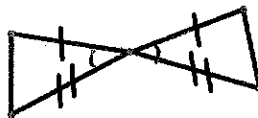
3. ASA



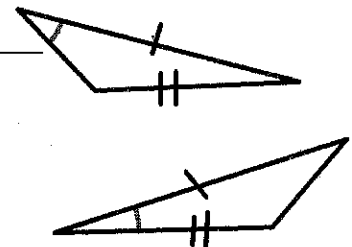
4. SSS



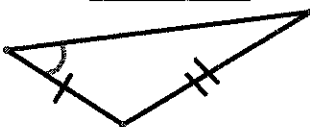
5. SAS



6. Not



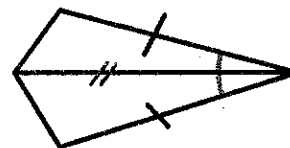
7. Not



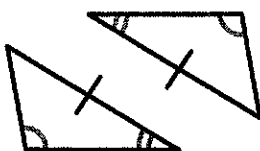
8. HL



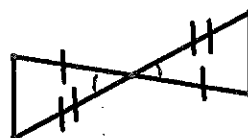
9. SAS



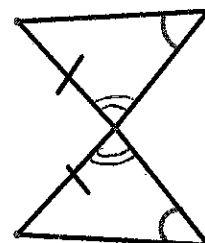
10. AAS



11. SAS



12. AAS

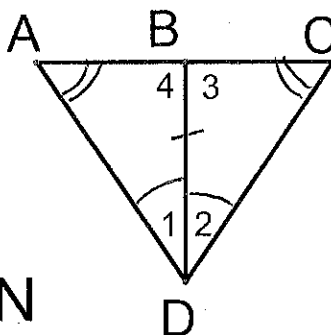


Part B: Use the given information to determine what triangles are congruent and the reason why. Mark the diagrams.

1. Given: \overline{BD} bisects $\angle ADC$; $\angle A \cong \angle C$

$$\triangle ABD \cong \triangle CBD$$

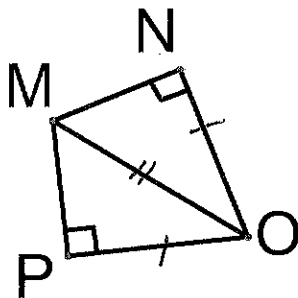
Why? AAS



2. Given: $PO = NO$

$$\triangle MPO \cong \triangle MNO$$

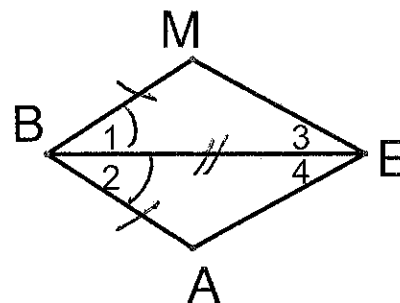
Why? HL



3. Given: \overline{BE} bisects $\angle MBA$; $BM = BA$

$$\triangle BME \cong \triangle BAE$$

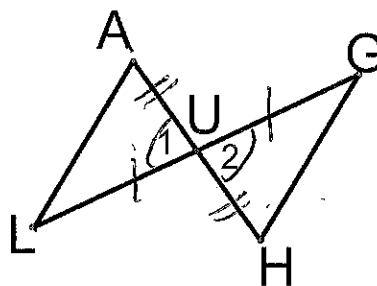
Why? SAS



4. Given: U is the midpoint of \overline{LG} and \overline{AH}

$$\triangle LAU \cong \triangle GHU$$

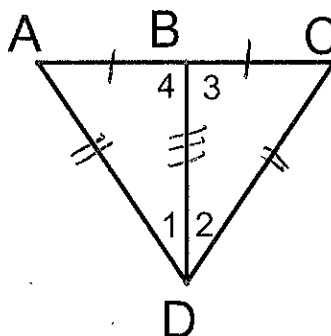
Why? SAS



5. Given: B is the midpoint \overline{AC} ; $AD = CD$

$$\triangle BAD \cong \triangle BCD$$

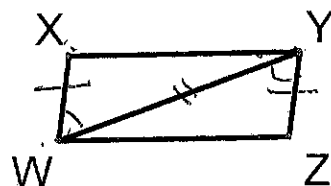
Why? SSS



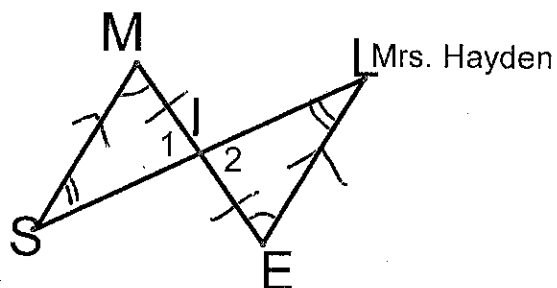
6. Given: $YZ = XW$; $\angle XWY \cong \angle WYZ$

$$\triangle WXY \cong \triangle YZW$$

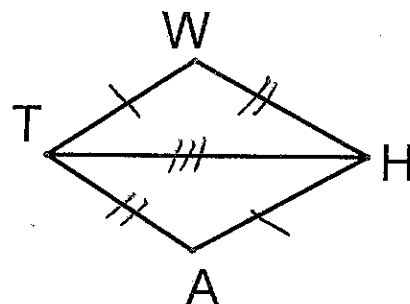
Why? SAS



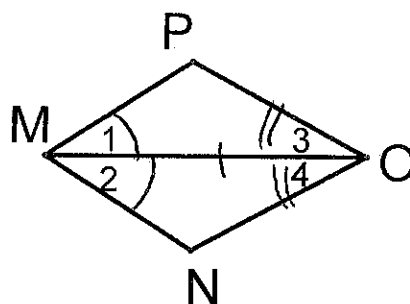
7. Given: $\overline{SM} \parallel \overline{LE}$; I is the midpoint of \overline{ME}
 $\triangle SMI \cong \triangle LEI$
 Why? AAS or ASA



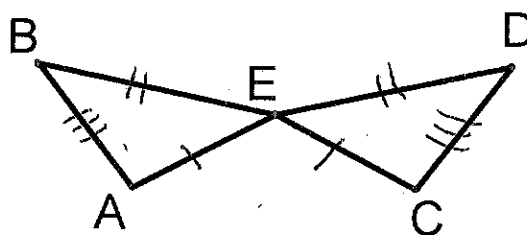
8. Given: $WT = HA$; $WH = AT$
 $\triangle WHT \cong \triangle ATH$
 Why? SSS



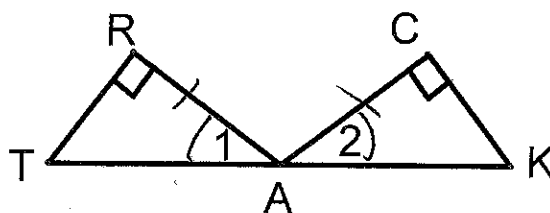
9. Given: \overline{MO} bisects $\angle PMN$ and $\angle PON$
 $\triangle PMO \cong \triangle NMO$
 Why? ASA



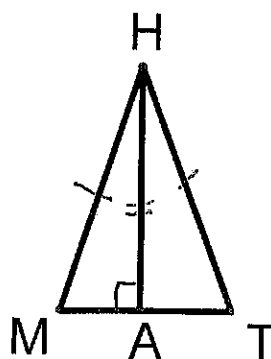
10. Given: $AE = CE$; $BE = DE$; $BA = DC$
 $\triangle BAE \cong \triangle DCE$
 Why? SSS



11. Given: $\angle 1 \cong \angle 2$; $RA = CA$
 $\triangle TRA \cong \triangle KCA$
 Why? ASA



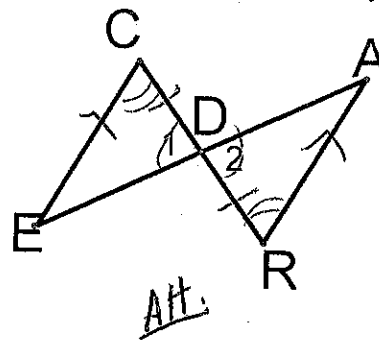
12. Given: $\overline{HA} \perp \overline{MT}$; $HM = HT$
 $\triangle MAH \cong \triangle TAH$
 Why? HL



Part C: Write the following proofs.

1. Given: $\overline{CE} \parallel \overline{AR}$; D is the midpoint of \overline{CR}
 Prove: $\triangle CDE \cong \triangle RDA$

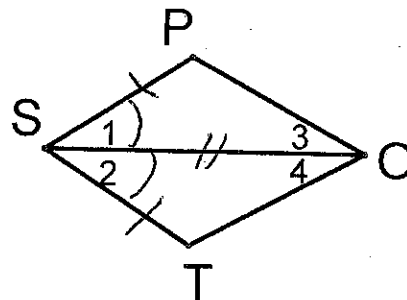
- ① \sim ① G
 ② $\overline{CD} \cong \overline{DR}$ ② Def of Midpt
 ③ $\angle 1 \cong \angle 2$ ③ Vert \angle s \cong
 ④ $\angle C \cong \angle R$ ④ \parallel , alt. int \angle s \cong
 ⑤ $\triangle CDE \cong \triangle RDA$ ⑤ ASA
 OR AAS



- ② same
 ③ $\angle C \cong \angle R$
 $\angle E \cong \angle A$ ③ ④ same
 ④ ⑤ AAS

2. Given: \overline{SO} bisects $\angle PST$; $\overline{PS} \cong \overline{ST}$
 Prove: $\triangle PSO \cong \triangle TSO$

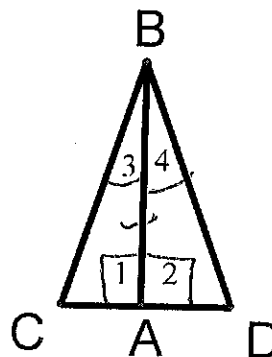
- ① \sim ①
 ② $\angle 1 \cong \angle 2$ ② Def \angle Bis.
 ③ $\overline{SO} \cong \overline{SO}$ ③ Ref.
 ④ $\triangle PSO \cong \triangle TSO$ ④ SAS



Complete this proof.

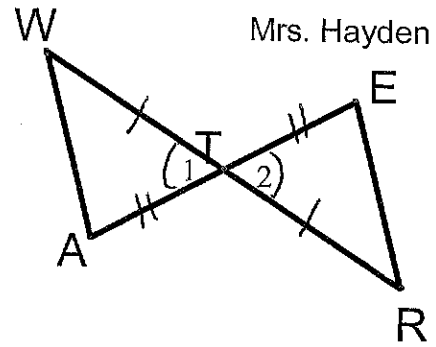
3. Given: \overline{BA} bisects $\angle CBD$; $\overline{BA} \perp \overline{DC}$
 Prove: $\triangle CAB \cong \triangle DAB$

Statements	Reasons
1. \sim	1. Given
2. $\angle 1$ is a right \angle $\angle 2$ is a right \angle	2. Def of \perp
3. $\angle 1 \cong \angle 2$	3. All right \angle s are \cong
4. $\angle 3 \cong \angle 4$	4. Def of \angle Bis
5. $\overline{BA} \cong \overline{BA}$	5. Refl.
6. $\triangle CAB \cong \triangle DAB$	6. ASA



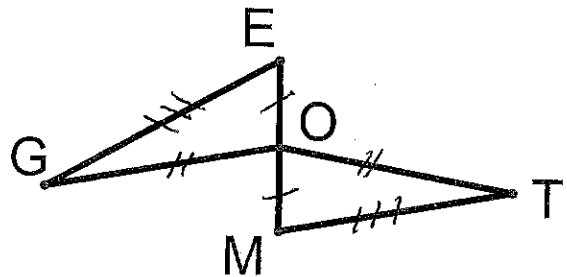
4. Given: T is the midpoint of \overline{WR} and \overline{AE}
 Prove: $\triangle WAT \cong \triangle RET$

S.	R
① ~	① Given
② $\overline{WT} \cong \overline{RT}$ $\overline{AT} \cong \overline{ET}$	② def of midpt
③ $\angle 1 \cong \angle 2$	③ Vertical \angle s are \cong
④ $\triangle WAT \cong \triangle RET$	④ SAS



5. Given: O is the midpoint of \overline{EM} ;
 $\overline{GO} \cong \overline{OT}$; $\overline{GE} \cong \overline{MT}$
 Prove: $\triangle GEO \cong \triangle TMO$

S.	R
① ~	① Given
② $\overline{EO} \cong \overline{MO}$	② def. of midpt
③ $\triangle GEO \cong \triangle TMO$	③ SSS



6. Given: $\triangle ELH$ & $\triangle HPL$ are right triangles
 $EL = PL$
 Prove: $\triangle HLP \cong \triangle HLE$

S.	R
① ~	① Given
② $\overline{HL} \cong \overline{HL}$	② Reflexive
③ $\triangle HLP \cong \triangle HLE$	③ HL

